

# SEQUENCE LISTING

<110> Kingsman, et al

<120> Retroviral Vectors

<130> 674523-2006

<140> 09/238,356

<141> 1999-01-27

<150> PCT/GB/03876

<151> 1998-12-22

<160> 64

<170> PatentIn version 3.0

<210> 1

<211> 381

<212> RNA

<213> Equine infectious anemia virus

<400> 1

augauaccgg gcacucagau ucugcggucu gagucccuuc ucugcugggc ugaaaaggcc 60

uuuguauaaa uauaaauucuc uacucagucc cugucucuag uuugucuguu cgagauccua 120

caguuggcgc ccgaacaggg accugagggg gcgcagacc uaccuguuga accuggcuga 180

ucguaggauc cccgggacag cagaggagaa cuuacagaag ucuucuggag guguuccugg 240

ggagaacaca ggaggacagg uaagauggga gacccuuuga cauggagcaa ggcgcucaag 300

aaguuaagaa ggugacggua caagggucuc aguuaacucu gguaacugua auugggcgc 360

aagucuaggu agacuuauuu c 381

<210> 2

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_feature

<222> (1)..(41)

<223> sequence showing part of split polyA signal

<400> 2

tcgctgcagc ggaataaagg gcaggtaagt atcaaggta c 41

<210> 3

<211> 60

<212> DNA

<213> Artificial Sequence, primer

<220>

<221> misc\_feature

<222> (1)..(60)

<223> sequence showing the part of split polyA signal

<400> 3

tcgctgcagc ggacacacaa aaaaccaaca cacagaactg ggaagtggac acctgtggag 60

<210> 4

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_feature

<222> (1)..(63)

<223> sequence showing both the parts of polyA signal

<400> 4

aataaagggc aggtaagctc cacaggtgtc cactccagtt ctgtgtgttg gttttttgtg 60

tgt 63

<210> 5

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<221> polyA\_signal

<222> (1)..(50)

<223> sequence of the polyA signal

<400> 5

aataaagggc aggtgtccac tccagttctg tgtgttggtt ttttgtgtgt 50

<210> 6

<211> 33

<212> DNA

<213> Artificial Sequence, primer

<220>

<221> misc\_feature

<222> (1)..(33)

<223> primer

<400> 6

tcgatagatc tgagtcggtt acataactta cg 33

<210> 7  
<211> 57  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(57)  
<223> primer

<400> 7  
gatctcgaac agacaaacta gagacagga ctgcaaacag caagaggctt tattggg

57

<210> 8  
<211> 30  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> primer

<400> 8  
gtccctgtct ctagtttgtc tgttcgagat

30

<210> 9  
<211> 27  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> primer

<400> 9  
ggggatccac tagttctaga gatattc

27

<210> 10  
<211> 27  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> primer

<400> 10  
ccttagacct ggagattcga agcgaag 27

<210> 11  
<211> 53  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(53)  
<223> primer

<400> 11  
ccaaacctac aggtgggggc tttcatttac aaggttatga gagcatcagc aac 53

<210> 12  
<211> 27  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> primer

<400> 12  
aatgaaagac cccacctgta ggtttgg 27

<210> 13  
<211> 41  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(41)  
<223> primer

<400> 13  
gtagagtgcc caattgccag tatacactcc gctatcgcta c 41

<210> 14  
<211> 11299  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_feature

<222> (1)..(11299)  
<223> plasmid

<300>  
<308> AX003194  
<309> 2000-08-24  
<313> (1)..(11299)

<400> 14  
ctaaattgta agcgttaata ttttgttaaa attcgcgtta aatttttgtt aaatcagctc 60  
attttttaac caataggccg aaatcggcaa aatcccttat aaatcaaaag aatagaccga 120  
gatagggttg agtgttggtc cagtttgga caagagtcca ctattaaaga acgtggactc 180  
caacgtcaaa gggcgaaaaa ccgtctatca gggcgatggc ccactacgtg aaccatcacc 240  
ctaatacaagt tttttggggt cgaggtgccg taaagcacta aatcggaacc ctaaagggag 300  
ccccgattt agagcttgac ggggaaagcc aacctggctt atcgaaatta atacgactca 360  
ctatagggag accggcagat ctgagtcctg tacataactt acggtaaatg gcccgcttg 420  
ctgaccgccc aacgaccccc gccattgac gtcaataatg acgtatgttc ccatagtaac 480  
gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa ctgcccactt 540  
ggcagtacat caagtgtatc atatgccaa gacgccccct attgacgtca atgacggtaa 600  
atggcccgcc tggcattatg cccagtacat gaccttatgg gactttccta cttggcagta 660  
catctacgta ttagtcatcg ctattaccat ggtgatgcgg ttttggcagt acatcaatgg 720  
gcgtggatag cggtttgact cacggggatt tccaagtctc caccctattg acgtcaatgg 780  
gagtttgttt tggcaccaaa atcaacggga ctttcacaaa tgtcgtaaca actccgcccc 840  
attgacgcaa atgggcggta ggcgtgtacg gtgggaggtc tatataagca gagctcgttt 900  
agtgaaccgc gccagtcttc cgatagactg cgtcgccccg gtaccctgat tccaataaa 960  
gcctcttgct gtttgcatcc gaatcgtggt ctgctgttc cttgggaggg tctcctctga 1020  
gtgattgact acccagcagc ggggtctttc atttctctag tttgtctgtt cgagatccta 1080  
cagttggcgc ccgaacaggg acctgagagg ggcgcagacc ctacctgttg aacctggctg 1140  
atcgtaggat ccccgggaca gcagaggaga acttacagaa gtcttctgga ggtgttcctg 1200  
gccagaacac aggaggacag gtaagatggg agaccctttg acatggagca aggcgctcaa 1260  
gaagttagag aaggtgacgg tacaagggtc tcagaaatta actactggta actgtaattg 1320  
ggcgctaagt ctagtagact tatttcatga taccaacttt gtaaaagaaa aggactggca 1380  
gctgagggat gtcattccat tgctggaaga tgtaactcag acgctgtcag gacaagaaa 1440



atcaggatat	gtggcggatg	agcggcattt	tccgtgacgt	ctcgttgctg	cataaaccga	3180
ctacacaaat	cagcgatttc	catgttgcca	ctcgctttaa	tgatgatttc	agccgcgctg	3240
tactggaggc	tgaagttcag	atgtgcggcg	agttgcgtga	ctacctacgg	gtaacagttt	3300
ctttatggca	gggtgaaacg	caggtcgcca	gcggcaccgc	gcctttcggc	ggtgaaatta	3360
tcgatgagcg	tggtgggttat	gccgatcgcg	tcacactacg	tctgaacgtc	gaaaaccgca	3420
aactgtggag	cgccgaaatc	ccgaatctct	atcgtgcggt	ggttgaactg	cacaccgccg	3480
acggcacgct	gattgaagca	gaagcctgcg	atgtcggttt	ccgcgaggtg	cggattgaaa	3540
atggtctgct	gctgctgaac	ggcaagccgt	tgctgattcg	aggcgttaac	cgtcacgagc	3600
atcatcctct	gcatggtcag	gtcatggatg	agcagacgat	ggtgcaggat	atcctgctga	3660
tgaagcagaa	caactttaac	gccgtgcgct	gttcgcatta	tccgaaccat	ccgctgtggt	3720
acacgctgtg	cgaccgctac	ggcctgtatg	tggtggatga	agccaatatt	gaaacccacg	3780
gcatggtgcc	aatgaatcgt	ctgaccgatg	atccgcgctg	gctaccggcg	atgagcgaac	3840
gcgtaacgcg	aatggtgcag	cgcgatcgta	atcacccgag	tgtgatcatc	tggtcgctgg	3900
ggaatgaatc	agggcacggc	gctaatacacg	acgcgctgta	tcgctggatc	aaatctgtcg	3960
atccttcccc	cccgggtgcag	tatgaaggcg	gcggagccga	caccacggcc	accgatatta	4020
tttgcccgat	gtacgcgcgc	gtggatgaag	accagccctt	cccggctgtg	ccgaaatggt	4080
ccatcaaaaa	atggcttttcg	ctacctggag	agacgcgccc	gctgatcctt	tgcgaaatag	4140
cccacgcgat	gggtaacagt	cttggcggtt	tcgctaaata	ctggcaggcg	tttcgtcagt	4200
atccccgttt	acagggcggc	ttcgtctggg	actgggtgga	tcagtcgctg	attaaatatg	4260
atgaaaacgg	caacccgctg	tcggcttacg	gcggtgattt	tggcgatacg	ccgaacgatc	4320
gccagttctg	tatgaacggt	ctggtctttg	ccgaccgcac	gccgatcca	gcgctgacgg	4380
aagcaaaaca	ccagcagcag	tttttccagt	tccgtttatc	cgggcaaacc	atcgaagtga	4440
ccagcgaata	cctgttccgt	catagcgata	acgagctcct	gactggatg	gtggcgctgg	4500
atggtaagcc	gctggcaagc	ggtgaagtgc	ctctggatgt	cgctccacaa	ggtaaacagt	4560
tgattgaact	gcctgaacta	ccgcagccgg	agagcgccgg	gcaactctgg	ctcacagtac	4620
gcgtagtgca	accgaacgcg	accgatggt	cagaagccgg	gcacatcagc	gcctggcagc	4680
agtggcgctc	ggcggaaaac	ctcagtgtga	cgctccccgc	cgctccccc	gccatccccg	4740
atctgaccac	cagcgaaatg	gattttttgca	tcgagctggg	taataagcgt	tggaatttta	4800
accgccagtc	aggcttttct	tcacagatgt	ggattggcga	taaaaaacaa	ctgctgacgc	4860

cgctgcgcga	tcagttcacc	cgtgcaccgc	tgataacga	cattggcgta	agtgaagcga	4920
cccgcatgga	ccctaacgcc	tggtcgaac	gctggaaggc	ggcgggcat	taccaggccg	4980
aagcagcggt	gttgcagtgc	acggcagata	cacttgctga	tgcggtgctg	attacgaccg	5040
ctcacgcgtg	gcagcatcag	gggaaaacct	tatttatcag	ccgaaaaacc	taccggattg	5100
atggtagtgg	tcaaattggc	attaccgttg	atgttgaagt	ggcgagcgat	acaccgcac	5160
cggcgcggat	tgccctgaac	tgccagctgg	cgcaggtagc	agagcgggta	aactggctcg	5220
gattagggcc	gcaagaaaac	tatcccgacc	gccttactgc	cgctgtttt	gaccgctggg	5280
atctgccatt	gtcagacatg	tataccccgt	acgtcttccc	gagcgaatac	ggtctgcgct	5340
gcgggacgcg	cgaattgaat	tatggcccac	accagtggcg	cggcgacttc	cagttcaaca	5400
tcagccgcta	cagtcaacag	caactgatgg	aaaccagcca	tcgccatctg	ctgcacgcgg	5460
aagaaggcac	atggctgaat	atcgacgggt	tccatatggg	gattggtggc	gacgactcct	5520
ggagcccgtc	agtatcggcg	gaattccagc	tgagcgccgg	tcgctaccat	taccagttgg	5580
tctggtgtca	aaaataataa	taaccgggca	ggggggatcc	gcagatccgg	ctgtggaatg	5640
tgtgtcagtt	aggggtgtga	aagtccccag	gctccccagc	aggcagaagt	atgcaaagca	5700
tgctgcagg	aattcgatat	caagcttatc	gataccgtcg	acctcgaggg	ggggcccggg	5760
accagcttt	tgttcccttt	agtgagggtt	aattgcgcgg	gaagtattta	tcactaatca	5820
agcacaagta	atacatgaga	aacttttact	acagcaagca	caatcctcca	aaaaattttg	5880
tttttacaaa	atccctgggtg	aacatgattg	gaagggacct	actagggtgc	tgtggaaggg	5940
tgatggtgca	gtagtagtta	atgatgaagg	aaagggaata	attgctgtac	cattaaccag	6000
gactaagtta	ctaataaaac	caaattgagt	attgttgacg	gaagcaagac	ccaactacca	6060
ttgtcagctg	tgtttcctga	ggtctctagg	aattgattac	ctcgatgctt	cattaaggaa	6120
gaagaataaa	caaagactga	aggcaatcca	acaagggaaga	caacctcaat	atttggtata	6180
aggtttgata	tatgggagta	tttggtaaag	gggtaacatg	gtcagcatcg	cattctatgg	6240
gggaatccca	gggggaatct	caacccttat	taccaacag	tcagaaaaat	ctaagtgtga	6300
ggagaacaca	atgtttcaac	cttattgtta	taataatgac	agtaagaaca	gcatggcaga	6360
atcgaaggaa	gcaagagacc	aagaaatgaa	cctgaaagaa	gaatctaaag	aagaaaaaag	6420
aagaaatgac	tggttgaaaa	taggtatgtt	tctgttatgc	ttagcaggaa	ctactggagg	6480
aatactttgg	tggtatgaag	gactcccaca	gcaacattat	atagggttgg	tggcgatagg	6540





aatatggggc	aaacaggata	tctgtggtaa	gcagttcctg	ccccggtca	gggccaagaa	8340
cagatggaac	agctgaatat	gggccaaaca	ggatatctgt	ggtaagcagt	tcctgccccg	8400
gctcagggcc	aagaacagat	ggtccccaga	tgcggtccag	ccctcagcag	tttctagaga	8460
accatcagat	gtttccaggg	tgccccaagg	acctgaaatg	accctgtgcc	ttatttgaac	8520
taaccaatca	gttcgcttct	cgcttctgtt	cgcgcgcttc	tgctccccga	gctcaataaa	8580
agagcccaca	accctcact	cggggcgcca	gtcctccgat	tgactgagtc	gcccgggtac	8640
ccgtgtatcc	aataaacct	cttgacgttg	catccgactt	gtggtctcgc	tgttccttgg	8700
gagggctctc	tctgagtgat	tgactaccgc	tcagcggggg	tctttcattt	gggggctcgt	8760
ccgggatcgg	gagaccctg	cccagggacc	accgaccac	caccgggagg	taagctggct	8820
gcctcgcgcg	tttcggtgat	gacggtgaaa	acctctgaca	catgcagctc	ccggagacgg	8880
tcacagcttg	tctgtaagcg	gatgccggga	gcagacaagc	ccgtcagggc	gcgtcagcgg	8940
gtgttgccgg	gtgtcggggc	gcagccatga	cccagtcacg	tagcgatagc	ggagtgtata	9000
ctggcaattg	ggcactcaga	ttctgcggtc	tgagtccctt	ctctgctggg	ctgaaaaggc	9060
ctttgtaata	aatataattc	tctactcagt	ccctgtctct	agtttgtctg	ttcgagatcc	9120
tacagagctc	atgccttggc	gtaatcatgg	tcatagctgt	ttcctgtgtg	aaattgttat	9180
ccgctcacia	ttccacacia	catagagacc	ggaagcataa	agtgtaaagc	ctgggggtgcc	9240
taatgagtga	gctaactcac	attaattgcg	ttgcgctcac	tgcccgtttt	ccagtcggga	9300
aacctgtcgt	gccagctgca	ttaatgaatc	ggccaacgcg	cggggagagg	cggtttgcgt	9360
attgggcgct	cttcgccttc	ctcgctcact	gactcgctgc	gtcgggtcgt	tcggctgcgg	9420
cgagcggtat	cagctcactc	aaaggcggtg	atacggttat	ccacagaatc	aggggataac	9480
gcaggaaaga	acatgtgagc	aaaaggccag	caaaaggcca	ggaaccgtaa	aaaggccgcg	9540
ttgctggcgt	ttttccatag	gtcccgcccc	cctgacgagc	atcacaaaaa	tcgacgctca	9600
agtcagaggt	ggcgaaaccc	gacaggacta	taaagatacc	aggcgtttcc	ccctggaagc	9660
tcctcgtgc	gctctcctgt	tccgaccctg	ccgcttaccg	gatacctgtc	cgcctttctc	9720
ccttcgggaa	gcgtggcgct	ttctcatagc	tcacgctgta	ggtatctcag	ttcgggtgtg	9780
gtcgttcgct	ccaagctggg	ctgtgtgcac	gaaccccccg	ttcagcccga	ccgctgcgcc	9840
ttatccggta	actatcgtct	tgagtccaac	ccggtaagac	acgacttatc	gccactggca	9900
gcagccactg	gtaacaggat	tagcagagcg	aggtatgtag	gcggtgctac	agagttcttg	9960

```

aagtgggtggc ctaactacgg ctacactaga aggacagtat ttggtatctg cgctctgctg 10020
aagccagtta ccttcggaaa aagagttggg agctcttgat ccggcaaaca aaccaccgct 10080
ggtagcgggtg gtttttttgt ttgcaagcag cagattacgc gcagaaaaaa aggatctcaa 10140
gaagatcctt tgatcttttc tacgggggtct gacgctcagt ggaacgaaaa ctcacgttaa 10200
gggatttttg tcatgagatt atcaaaaagg atcttcacct agatcctttt aaattaaaaa 10260
tgaagtttta aatcaatcta aagtatatat gagtaaactt ggtctgacag ttaccaatgc 10320
ttaatcagtg aggcacctat ctacgcgacg tgtctatttc gttcatccat agttgcctga 10380
ctccccgtcg tgtagataac tacgatacgg gagggcttac catctggccc cagtgtcgca 10440
atgataccgc gagaccacg ctcaccggct ccagatttat cagcaataaa ccagccagcc 10500
ggaagggccg agcgcagaag tggtcctgca actttatccg cctccatcca gtctattaat 10560
tgttgccggg aagctagagt aagtagttcg ccagttaata gtttgcgcaa cgttgttgcc 10620
attgctacag gcatcggtg gtcacgctcg tcgtttggta tggcttcatt cagctccggt 10680
tcccaacgat caaggcgagt tacatgatcc cccatgttgt gcaaaaaagc ggtagctcc 10740
ttcggtcctc cgatcgttgt cagaagtaag ttggccgcag tgttatcact catggttatg 10800
gcagcactgc ataattctct tactgtcatg ccatccgtaa gatgcttttc tgtgactggg 10860
gagtactcaa ccaagtcatt ctgagaatag tgtatgcggc gaccgagttg ctcttgcccc 10920
gcgtcaatac gggataatac cgcgccacat agcagaactt taaaagtgct catcattgga 10980
aaacgttctt cggggcgaaa actctcaagg atcttaccgc tgttgagatc cagttcgatg 11040
taaccactc gtgcacccaa ctgatcttca gcatctttta ctttcaccag cgtttctggg 11100
tgagcaaaaa caggaaggca aaatgccgca aaaaagggaa taagggcgac acggaaatgt 11160
tgaatactca tactcttctt ttttcaatat tattgaagca tttatcaggg ttattgtctc 11220
atgagcggat acatatttga atgtatttag aaaaataaac aaataggggt tccgcgcaca 11280
tttccccgaa aagtccac                                     11299

```

```

<210> 15
<211> 66
<212> DNA
<213> Artificial Sequence,primer

<220>
<221> misc_feature
<222> (1)..(66)
<223> primer

```

<400> 15  
atcgaagctt aattaaaagt agaaaatata ttctaattta ttgggcactc agttctgcgg 60  
tctgag 66

<210> 16  
<211> 35  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(35)  
<223> primer

<400> 16  
tcagctgcag ttcgggcgcc aactgtagga tctcg 35

<210> 17  
<211> 33  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(33)  
<223> primer

<400> 17  
actgctgcag agattcgaag cgaaggagga aac 33

<210> 18  
<211> 31  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(31)  
<223> primer

<400> 18  
tgtgggggtt ccatgagggg tttataaat g 31

<210> 19  
<211> 30  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(30)  
<223> primer

<400> 19  
ccctcatgga aacccacgt tcccccttg

30

<210> 20  
<211> 33  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(33)  
<223> primer

<400> 20  
ctgaagatct gaatctgagt gcccaattgt cag

33

<210> 21  
<211> 23  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(23)  
<223> primer

<400> 21  
ctgacaattg ggcactcaga ttc

23

<210> 22  
<211> 44  
<212> DNA  
<213> Artificial Sequence,primer

<220>  
<221> misc\_feature  
<222> (1)..(44)  
<223> primer

<400> 22  
catgagatct taaaaaaaaa tgatgagaga attatatatta ttac

44

<210> 23  
<211> 21

<212> DNA  
<213> Equine infectious anemia virus

<220>  
<221> misc\_feature  
<222> (1)..(21)

<400> 23  
gggcactcag attctgcggt c 21

<210> 24  
<211> 77  
<212> DNA  
<213> Equine infectious anemia virus

<400> 24  
cuagugauuc ugagugcccc ugaugagcgg ccgaaaggcc gcgaaaccug cguacgacac 60  
gcaggucggg cactcag 77

<210> 25  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> promoter  
<222> (13)..(29)  
<223> T7 promoter

<400> 25  
atcgттаatt aataatacga ctactatag ggcactcaga ttctgcggtc 50

<210> 26  
<211> 82  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> terminator  
<222> (11)..(59)  
<223> T7 termination sequence

<400> 26  
catgagatct caaaaaaccc ctcaagaccc gtttagaggc cccaaggggt tatgctagtg 60  
atgagagaat tatatttatt ac 82

<210> 27  
<211> 7252  
<212> DNA

<213> Artificial Sequence, plasmid

<220>

<221> misc\_feature

<222> (1)..(7252)

<223> plasmid vector

<300>

<308> AX003206

<309> 2000-08-24

<313> (1)..(7252)

<400> 27

agctttttgcg atcaataaat ggatcacaaac cagtatctct taacgatggt cttcgcagat 60  
gatgattcat tttttaagta tttggctagt caagatgatg aaatcttcat tatctgatat 120  
attgcaaatac actcaataatc tagactttct gttattatta ttgatccaat caaaaaataa 180  
attagaagcc gtgggtcatt gttatgaatc tctttcagag gaatacagac aattgacaaa 240  
attcacagac tttcaagatt ttaaaaaact gtttaacaag gtccctattg ttacagatgg 300  
aagggtcaaa ctttaataaag gatatttggt cgactttgtg attagtttga tgcgattcaa 360  
aaaagaatcc tctctagcta ccaccgcaat agatcctgtt agatacatag atcctcgtcg 420  
caatatcgca ttttctaacg tgatggatat attaaagtcg aataaagtga acaataatta 480  
attctttatt gtcatcatga acggcggaca tattcagttg ataatcggcc ccatgttttc 540  
aggtaaaagt acagaattaa ttagacgagt tagacgttat caaatagctc aatataaatg 600  
cgtgactata aaatattcta acgataatag atacggaacg ggactatgga cgcagtataa 660  
gaataatatt gaagcattgg aagcaactaa actatgtgat ctcttggaat caattacaga 720  
tttctccgtg ataggtatcg atgaaggaca gttctttcca gacattgttg aattagatcg 780  
ataaaaatta attaattacc cgggtaccag gcctagatct gtcgacttcg agcttattta 840  
tattccaaaa aaaaaaata aaatttcaat ttttaagctt tactaattc caaaccacc 900  
cgctttttat agtaagtttt tcaccataa ataataaata caataattaa tttctcgtaa 960  
aagtagaaaa tatattctaa tttattgcac ggtaagggaag tagatcataa ctcgagcatg 1020  
ggagatcccg tcgttttaca acgtcgtgac tgggaaacc ctggcgttac ccaacttaat 1080  
cgccttgcat cacatcccc tttcgccagc tggcgtaata gcgaagaggc ccgcaccgat 1140  
cgcccttccc aacagttgcg cagcctgaat ggcgatggc gctttgcctg gtttccggca 1200  
ccagaagcgg tgccggaaag ctggctggag tgcgatcttc ctgaggccga tactgtcgtc 1260  
gtcccctcaa actggcagat gcacggttac gatgcgcca tctacaccaa cgtaacctat 1320

ccattacgg	tcaatccgcc	gtttgttccc	acggagaatc	cgacggggttg	ttactcgctc	1380
acatttaatg	ttgatgaaaag	ctggctacag	gaaggccaga	cgcaattat	ttttgatggc	1440
gttaactcgg	cgtttcatct	gtggtgcaac	gggcgctggg	tcggttacgg	ccaggacagt	1500
cgtttgccgt	ctgaatttga	cctgagcgca	tttttacgcg	ccggagaaaa	ccgcctcgcg	1560
gtgatggtgc	tgcgttgag	tgacggcagt	tatctggaag	atcaggatat	gtggcggatg	1620
agcggcattt	tccgtgacgt	ctcgttgctg	cataaacoga	ctacacaaat	cagcgatttc	1680
catgttgcca	ctcgctttaa	tgatgatttc	agccgcgctg	tactggaggc	tgaagttcag	1740
atgtgcggcg	agttgcgtga	ctacctacgg	gtaacagttt	ctttatggca	gggtgaaacg	1800
caggtcgcca	gcggcaccgc	gcctttcggc	ggtgaaatta	togatgagcg	tggtggttat	1860
gccgatcgcg	tcacactacg	tctcaacgtc	gaaaaccoga	aactgtggag	cgccgaaatc	1920
ccgaatctct	atcgtgcggt	ggttgaaactg	cacaccgcgc	acggcacgct	gattgaagca	1980
gaagcctcg	atgtcggttt	ccgcgaggtg	cggattgaaa	atggtctgct	gctgctgaac	2040
ggcaagccgt	tgctgattcg	aggcgttaac	cgtcacgagc	atcatcctct	gcatggtcag	2100
gtcatggatg	agcagacgat	ggtgcaggat	atcctgctga	tgaagcagaa	caactttaac	2160
gccgtgcgct	gttcgcatta	tccgaaccat	ccgctgtggt	acacgctgtg	cgaccgctac	2220
ggcctgtatg	tggtggatga	agccaatatt	gaaaccacgc	gcatggtgcc	aatgaatcgt	2280
ctgaccgatg	atccgcgctg	gctaccggcg	atgagcgaac	gcgtaacgcg	aatggtgcag	2340
cgcgatcgta	atcaccgcgag	tgtgatcatc	tggtcgctgg	ggaatgaatc	aggccacggc	2400
gctaatacag	acgcgctgta	tcgctggatc	aaatctgtcg	atccttcccg	cccggtcgag	2460
tatgaaggcg	gcggagccga	caccacggcc	accgatatta	tttgcccgat	gtacgcgcgc	2520
gtggatgaag	accagccctt	cccggctgtg	ccgaaatggt	ccatcaaaaa	atggctttcg	2580
ctacctggag	agacgcgccc	gctgatcctt	tgcaataacg	cccacgcgat	gggtaacagt	2640
cttggcggtt	tcgctaaata	ctggcaggcg	tttcgtcagt	atccccgttt	acagggcggc	2700
ttcgtctggg	actgggtgga	tcagtcgctg	attaaatatg	atgaaaacgg	caaccctggg	2760
tcggcttacg	gcggtgattt	tggcgatacg	ccgaacgata	gccagttctg	tatgaacggt	2820
ctggctctttg	ccgaccgcac	gccgcatacca	gcgctgacgg	aagcaaaaaca	ccagcagcag	2880
tttttccagt	tccgtttatc	cgggcaaacc	atogaagtga	ccagcgaata	cctgttcctg	2940
catagcgata	acgagctcct	gcactggatg	gtggcgctgg	atggtaagcc	gctggcaagc	3000



ggatgaagtgc	ctctggatgt	cgctccacaa	ggtaaacagt	tgattgaact	gcctgaacta	3060
ccgcagccgg	agagcgccgg	gcaactctgg	ctcacagtac	gcgtagtgca	accgaacgcg	3120
accgcatggt	cagaagccgg	gcacatcagc	gcctggcagc	agtggcgctc	ggcggaaaac	3180
ctcagtgtga	cgctccccgc	cgctccccac	gccatccccg	atctgaccac	cagcgaaatg	3240
gattttttgca	tcgagctggg	taataagcgt	tggcaattta	accgccagtc	aggctttctt	3300
tcacagatgt	ggattggcga	taaaaaacaa	ctgctgacgc	cgctgcgcga	tcagttcacc	3360
cgtgcaccgc	tggataacga	cattggcgta	agtgaagcga	cccgcattga	ccctaacgcc	3420
tgggtcgaac	gctggaaggc	ggcggggccat	taccaggccg	aagcagcggt	gttgcagtgc	3480
acggcagata	cacttgctga	tgcggtgctg	attacgaccg	ctcacgcgtg	gcagcatcag	3540
gggaaaacct	tatttatcag	ccggaaaacc	taccggattg	atggtagtgg	tcaaattggcg	3600
attaccgttg	atgttgaagt	ggcgagcgat	acaccgcata	cggcgcggat	tggcctgaac	3660
tgccagctgg	cgcaggtagc	agagcgggta	aactggctcg	gattagggcc	gcaagaaaac	3720
tatcccgacc	gccttactgc	cgctgtttt	gaccgctggg	atctgccatt	gtcagacatg	3780
tataccccgt	acgtcttccc	gagcgaaaac	ggtctgcgct	gcgggacgcg	cgaattgaat	3840
tatggccac	accagtggcg	cggcgacttc	cagttcaaca	tcagccgcta	cagtcaacag	3900
caactgatgg	aaaccagcca	tcgccatctg	ctgcacgcgg	aagaaggcac	atggctgaat	3960
atcgacgggt	tccatatggg	gattggtggc	gacgactcct	ggagcccgtc	agtatcggcg	4020
gaattcagct	gagcgccgg	cgctaccatt	accagttggt	ctggtgtcaa	aaataataat	4080
aaaccgggcag	gggggatcct	tctgtgagcg	tatggcaaac	gaaggaaaaa	tagttatagt	4140
agccgcactc	gatgggacat	ttcaacgtaa	accgtttaat	aatattttga	atcttattcc	4200
attatctgaa	atggtggtaa	aactaactgc	tgtgtgtatg	aaatgcttta	aggaggcttc	4260
cttttctaaa	cgattgggtg	aggaaaccga	gatagaaata	ataggaggta	atgatatgta	4320
tcaatcgggtg	tgtagaaagt	gttacatcga	ctcataatat	tatatTTTTT	atctaaaaaa	4380
ctaaaaataa	acattgatta	aattttaata	taataactta	aatggatgt	tgtgtcgtta	4440
gataaacctg	ttatgtat	tgaggaaatt	gataatgagt	tagattacga	accagaaagt	4500
gcaaatgagg	tcgcaaaaaa	actgccgtat	caaggacagt	taaaactatt	actaggagaa	4560
ttatTTTTT	ttagtaagtt	acagcgacac	ggtatattag	atggtgccac	cgtagtgtat	4620
ataggatctg	ctcccggtac	acatatagct	tatttgagag	atcattttcta	taatttagga	4680
gtgatcatca	aatggatgct	aattgacggc	cgccatcatg	atcctatTTT	aatggattg	4740

cgtgatgtga	ctctagtgac	tcggttcggt	gatgaggaat	atctacgatc	catcaaaaaa	4800
caactgcac	cttctaagat	tattttaatt	tctgatgtga	gatccaaacg	aggaggaaat	4860
gaacctagta	cggcggattt	actaagtaat	tacgctctac	aaaatgtcat	gattagtatt	4920
ttaaaccctg	tggcgtctag	tcttaaattg	agatgcccgt	ttccagatca	atggatcaag	4980
gaotttttata	tcccacacgg	taataaaaatg	ttacaacctt	ttgctccttc	atattcagct	5040
gaaatgagat	tattaagtat	ttataccggt	gagaacatga	gactgactcg	ggccgcggtg	5100
ctggcggtttt	tccataggct	ccgccccctt	gacgagcatc	acaaaaatcg	acgctcaagt	5160
cagaggtggc	gaaacccgac	aggactataa	agataccagg	cgtttcccc	tggaagctcc	5220
ctcgtgcgct	ctcctgttcc	gaccctgccg	cttaccggat	acctgtccgc	ctttctccct	5280
tcggaagcg	tggcgctttc	tcaatgctca	cgctgtaggt	atctcagttc	ggtgtaggtc	5340
gttcgctcca	agctgggctg	tgtgcacgaa	cccccgcttc	agcccgaccg	ctgcgcctta	5400
tccggtaact	atcgtcttga	gtccaacccg	gtaagacacg	acttatcgcc	actggcagca	5460
gccactggta	acaggattag	cagagcgagg	tatgtaggcg	gtgctacaga	gttcttgaag	5520
tgggtggccta	actacggcta	cactagaagg	acagtatttg	gtatctgcgc	tctgctgaag	5580
ccagttacct	tcggaaaaag	agttggtagc	tcttgatccg	gcaaacaaac	caccgctggt	5640
agcggtggtt	tttttggttg	caagcagcag	attacgcgca	gaaaaaaaag	atctcaagaa	5700
gatcctttga	tcttttctac	ggggtctgac	gctcagtggg	acgaaaactc	acgttaaggg	5760
attttggtca	tgagattatc	aaaaaggatc	ttcacctaga	tccttttaaa	ttaaaaatga	5820
agttttaaat	caatctaaag	tatatatgag	taaacttggt	ctgacagtta	ccaatgctta	5880
atcagtgagg	cacctatctc	agcgatctgt	ctatttcggt	catccatagt	tgcttgactc	5940
cccgtcgtgt	agataactac	gatacgggag	ggcttaccat	ctggccccag	tgctgcaatg	6000
ataccgcgag	accacgctc	accggctcca	gatttatcag	caataaacca	gccagccgga	6060
agggccgagc	gcagaagtgg	tcttgcaact	ttatccgcct	ccatccagtc	tattaattgt	6120
tgccgggaag	ctagagtaag	tagttcgcca	gttaatagtt	tgcgcaacgt	tggtgccatt	6180
gctgcaggca	tcggtggtgc	acgctcgtcg	tttggtatgg	cttcattcag	ctccggttcc	6240
caacgatcaa	ggcgagttac	atgatcccc	atggtgtgca	aaaaagcggg	tagctccttc	6300
ggtcctccga	tcggtgtcag	aagtaagttg	gccgcagtgt	tatcactcat	ggttatggca	6360
gcactgcata	attctcttac	tgtcatgcc	tccgtaagat	gcttttctgt	gactgggtgag	6420

tactcaacca agtcattctg agaatagtgt atgcggcgac cgagttgctc ttgcccggcg	6480
tcaacacggg ataataccgc gccacatagc agaactttaa aagtgtcat cattggaaaa	6540
cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag ttcgatgtaa	6600
cccactcgtg caccctaactg atcttcagca tcttttactt tcaccagcgt ttctgggtga	6660
gcaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa ggcgcacacg gaaatgttga	6720
atactcatac tcttcctttt tcaatattat tgaagcattt atcagggtta ttgtctcatg	6780
agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc gcgcacattt	6840
ccccgaaaag tgccacctga cgtctaagaa accattatta tcatgacatt aacctataaa	6900
aataggcgta tcacgaggcc ctttcgtctt cgaataaata cctgtgacgg aagatcactt	6960
cgcagaataa ataaatcctg gtgtccctgt tgataccggg aagccctggg ccaacttttg	7020
gcgaaaatga gacgttgatc ggcacgtaag aggttccaac tttcaccata atgaaataag	7080
atcactaccg ggcgtatttt ttgagttatc gagattttca ggagctaagg aagctaaaat	7140
ggagaaaaaa atcactggat ataccaccgt tgatatatcc caatggcatc gtaaagaaca	7200
ttttgaggca tttcagtcag ttgctcaatg tacctataac cagaccgttc ag	7252

<210> 28  
 <211> 7387  
 <212> DNA  
 <213> Artificial Sequence, primer

<220>  
 <221> misc\_feature  
 <222> (1)..(7387)  
 <223> plasmid vector

<300>  
 <308> AX003207  
 <309> 2000-08-24  
 <313> (1)..(7387)

<400> 28	
cctcctgaaa aactggaatt taatacacca tttgtgttca tcatcagaca tgatattact	60
ggattttatat tgtttatggg taaggtagaa tctccttaat atgggtacgg tgtaaggaat	120
cattattttta tttatattga tgggtacgtg aaatctgaat tttcttaata aatattattt	180
ttattaaatg tgtatatgtt gttttgcgat agccatgtat ctactaatca gatctattag	240
agatattatt aattctggtg caatatgaca aaaattatac actaattagc gtctcgtttc	300
agacatggat ctgtcacgaa ttaatacttg gaagtctaag cagctgaaaa gctttctctc	360

tagcaaagat	gcattttaagg	cggatgtcca	tggacatagt	gccttgtatt	atgcaatagc	420
tgataataac	gtgcgctctag	tatgtacggt	gttgaacgct	ggagcattga	aaaatcttct	480
agagaatgaa	tttccattac	atcaggcagc	cacattggaa	gataccaaaa	tagtaaagat	540
tttggctatt	cagtggactg	gatgattcga	ggtacccgat	ccccctgcc	cggttattat	600
tatttttgac	accagaccaa	ctggtaatgg	tagcgaccgg	cgctcagctg	aattccgccg	660
atactgacgg	gctccaggag	tcgtcgccac	caatcccat	atggaaaccg	tcgatattca	720
gccatgtgcc	ttcttccgcg	tgcagcagat	ggcgatggct	ggtttccatc	agttgctggt	780
gactgtagcg	gctgatgttg	aactggaagt	cgccgcgcca	ctggtgtggg	ccataattca	840
attcgcgct	cccgcagcgc	agaccgtttt	cgctcgggaa	gacgtacggg	gtatacatgt	900
ctgacaatgg	cagatcccag	cggtcaaaac	aggcggcagt	aaggcggtcg	ggatagtttt	960
cttgccggccc	taatccgagc	cagtttacct	gctctgctac	ctgcgccagc	tggcagttca	1020
ggccaatccg	cgccggatgc	ggtgtatcgc	tcgccacttc	aacatcaacg	gtaatcgcca	1080
tttgaccact	accatcaatc	cggtaggttt	tccggctgat	aaataagggt	ttcccctgat	1140
gctgccacgc	gtgagcggtc	gtaatcagca	ccgcatcagc	aagtgtatct	gccgtgcact	1200
gcaacaacgc	tgcttcggcc	tggtaatggc	ccgccgcctt	ccagcgttcg	acccaggcgt	1260
taggggtcaat	gcgggtcgct	tcacttacgc	caatgtcggt	atccagcggt	gcacgggtga	1320
actgatcgcg	cagcggcgtc	agcagttggt	ttttatcgcc	aatccacatc	tgtgaaagaa	1380
agcctgactg	gcgggttaa	tgccaacgct	tattaccag	ctcgatgcaa	aaatccattt	1440
cgctggtggt	cagatgcggg	atggcgtggg	acgcggcggg	gagcgtcaca	ctgagggttt	1500
ccgccagacg	ccactgctgc	caggcgctga	tgtgcccggc	ttctgaccat	gcggtcgcgt	1560
tcggttgcac	tacgcgtact	gtgagccaga	gttgcccggc	gctctccggc	tgcggtagtt	1620
caggcagttc	aatcaactgt	ttaccttggt	gagcgacatc	cagaggcact	tcaccgcttg	1680
ccagcggcct	accatccagc	gccaccatcc	agtgcaggag	ctcgttatcg	ctatgacgga	1740
acaggttatc	gctggctact	tcgatgggtt	gcccggataa	acggaactgg	aaaaactgct	1800
gctggtgttt	tgcttccgtc	agcgtggat	gcggcggtcg	gtcggcaaag	accagaccgt	1860
tcatacagaa	ctggcgatcg	ttcggcgat	cgccaaaatc	accgccgtaa	gccgaccacg	1920
ggttgccggt	ttcatcatat	ttaatcagcg	actgatccac	ccagtcccag	acgaagccgc	1980
cctgtaaacg	gggataactga	cgaaacgcct	gccagtattt	agcgaaaccg	ccaagactgt	2040



gtttggaatt	agtgaaagct	gggagatctg	gcgcgcctgc	agagaattcg	tttaaacgga	3840
tcccgagctt	atttatattc	caaaaaaaaa	aaataaaatt	tcaattttta	agctggggat	3900
cctctagagt	cgacctgcag	gcatgctcga	gcggccgcga	gtgtgatgga	tatctgcaga	3960
attcggcttg	gggggctgca	ggtggatgcg	atcatgacgt	cctctgcaat	ggataacaat	4020
gaacctaaag	tactagaaat	ggtatatgat	gctacaattt	taccogaagg	tagtagcatg	4080
gattgtataa	acagacacat	caatatgtgt	atacaacgca	cctatagttc	tagtataatt	4140
gccatattgg	atagattcct	aatgatgaac	aaggatgaac	taaataatac	acagtgtcat	4200
ataattaaag	aatttatgac	atacgaacaa	atggcgattg	accattatgg	agaatatgta	4260
aacgctattc	tatatcaaat	tcgtaaaaga	cctaatacac	atcacaccat	taatctgttt	4320
aaaaaaataa	aaagaacccg	gtatgacact	tttaaagtgg	atcccgtaga	attcgtaaaa	4380
aaagttatcg	gatttgtatc	tatcttgaac	aaatataaac	cggtttatag	ttacgtcctg	4440
tacgagaacg	tcctgtacga	tgagttcaaa	tgtttcattg	actacgtgga	aactaagtat	4500
ttctaaaatt	aatgatgcat	taatttttgt	attgattctc	aatcctaaaa	actaaaatat	4560
gaataagtat	taaacatagc	ggtgtactaa	ttgatttaac	ataaaaaata	gttgtttaact	4620
aatcatgagg	actctactta	ttagatatat	tctttggaga	aatgacaacg	atcaaaccgg	4680
gcatgcaagc	ttgtctccct	atagtgagtc	gtattagagc	ttggcgtaat	catggtcata	4740
gctgtttcct	gtgtgaaatt	gttatccgct	cacaattcca	cacaacatac	gagccggaag	4800
cataaaagtg	aaagcctggg	gtgcctaata	agtgaagctaa	ctcacattaa	ttgcgttgcg	4860
ctcactgccc	gctttcgagt	cgggaaacct	gtcgtgccag	ctgcattaat	gaatcggcca	4920
acgcgcgggg	agaggcggtt	tgcgtaattg	gcgctcttcc	gcttctctgc	tactgactc	4980
gctgcgctcg	gtcgttcggc	tgcggcgagc	ggtatcagct	cactcaaagg	cggtaatatc	5040
gttatccaca	gaatcagggg	ataacgcagg	aaagaacatg	tgagcaaaag	gccagcaaaa	5100
ggccaggaac	cgtaaaaagg	ccgcgttgct	ggcgtttttc	gataggctcc	gccccctga	5160
cgagcatcac	aaaaatcgac	gctcaagtca	gagggtggcg	aacccgacag	gactataaag	5220
ataccaggcg	tttccccctg	gaagctccct	cgtgcgctct	cctgttcoga	ccctgccgct	5280
taccggatac	ctgtccgcct	ttctcccttc	gggaagcgtg	gcgctttctc	atagctcacg	5340
ctgtaggtat	ctcagttcgg	tgtaggtcgt	tcgctccaag	ctgggctgtg	tgcacgaacc	5400
ccccgttcag	cccgaccgct	gcgccttata	cggtaaactat	cgtcttgagt	ccaacccggt	5460

aagacacgac	ttatcgccac	tggcagcagc	cactggtaac	aggattagca	gagcgaggta	5520
tgtaggcggt	gctacagagt	tcttgaagtg	gtggcctaac	tacggctaca	ctagaaggac	5580
agtatttggg	atctgcgctc	tgctgaagcc	agttaccttc	ggaaaaagag	ttggtagctc	5640
ttgatccggc	aaacaaacca	ccgctggtag	cggtggtttt	tttgtttgca	agcagcagat	5700
tacgogcaga	aaaaaaggat	ctcaagaaga	tcctttgatc	ttttctacgg	ggtctgacgc	5760
tcagtggaac	gaaaactcac	gttaagggat	tttggtcatg	agattatcaa	aaaggatctt	5820
cacctagatc	cttttaaat	aaaaatgaag	ttttaaatca	atctaaagta	tatatgagta	5880
aacttgggtc	gacagttacc	aatgcttaat	cagtgaggca	cctatctcag	cgatctgtct	5940
atttogttca	tccatagttg	cctgactccc	cgtcgtgtag	ataactacga	tacgggaggg	6000
cttaaccatc	ggccccagtg	ctgcaatgat	accgcgagac	ccacgctcac	cggctccaga	6060
tttatcagca	ataaaccagc	cagccggaag	ggccgagcgc	agaagtggtc	ctgcaacttt	6120
atccgcctcc	atccagtcta	ttaattgttg	ccgggaagct	agagtaagta	gttcgccagt	6180
taatagtttg	cgcaacgttg	ttggcattgc	tacaggcatc	gtggtgtcac	gctcgtcgtt	6240
tggtatggct	tcattcagct	ccggttccca	acgatcaagg	cgagttacat	gatcccccat	6300
gttgtgcaaa	aaagcgggta	gtccttcggg	tcctccgatc	gttgtcagaa	gtaagttggc	6360
cgcagtgtta	tactcatggt	ttatggcagc	actgcataat	tctcttactg	tcatgccatc	6420
cgtaagatgc	ttttctgtga	ctggtgagta	ctcaaccaag	tcattctgag	aatagtgtat	6480
gcggcgaccg	agttgctctt	gcccggcgct	aatacgggat	aataccgcgc	cacatagcag	6540
aactttaaaa	gtgctcatca	ttggaaaacg	ttcttcgggg	cgaaaactct	caaggatctt	6600
accgctgttg	agatccagtt	cgatgtaacc	cactcgtgca	cccaactgat	cttcagcatc	6660
ttttactttc	accagcgttt	ctgggtgagc	aaaaacagga	aggcaaaatg	ccgcaaaaaa	6720
gggaataagg	gcgacacgga	aatggtgaat	actcatactc	ttcctttttc	aatattattg	6780
aagcatttat	caggggttatt	gtctcatgag	cggatacata	tttgaatgta	tttagaaaaa	6840
taaacaaata	ggggttccgc	gcacatttcc	ccgaaaagtg	ccacctgacg	tctaagaaac	6900
cattattatc	atgacattaa	cctataaaaa	taggcgtatc	acgaggccct	ttcgtctcgc	6960
gcgtttcggg	gatgacggtg	aaaacctctg	acacatgcag	ctcccggaga	cggtcacagc	7020
ttgtctgtaa	gcggatgccg	ggagcagaca	agcccgtcag	ggcgcgtcag	cgggtgttgg	7080
cgggtgtcgg	ggctggctta	actatgcggc	atcagagcag	attgtactga	gagtgcacca	7140
tatgcgggtg	gaaataccgc	acagatgcgt	aaggagaaaa	taccgcatca	ggcgccattc	7200

gccattcagg ctgcgcaact gttgggaagg gcgatcggtg cgggcctctt cgctattacg 7260  
ccagctggcg aaagggggat gtgctgcaag gcgattaagt tgggtaacgc cagggttttc 7320  
ccagtcacga cgttgtaaaa cgacggccag tgaattggat ttaggtgaca ctatagaata 7380  
cgaattc 7387

<210> 29  
<211> 27  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(27)  
<223> primer

<400> 29  
gcatggacct gtggggtttt tatgagg 27

<210> 30  
<211> 29  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(29)  
<223> primer

<400> 30  
gcatgagctc tgtaggatct cgaacagac 29

<210> 31  
<211> 33  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(33)  
<223> primer

<400> 31  
gactacgact agtgtatggt tagaaaaaca agg 33

<210> 32  
<211> 32



<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_feature  
<222> (1)..(32)  
<223> primer

<400> 32  
ctaggctact agtactgtag gatctcgaac ag

32

<210> 33  
<211> 33  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(33)  
<223> primer

<400> 33  
gggctatatg agatcttgaa taataaaatg tgt

33

<210> 34  
<211> 14  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(14)  
<223> primer

<400> 34  
tattaataac tagt

14

<210> 35  
<211> 42  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(42)  
<223> primer

<400> 35  
gctacgcaga gctcgtttag tgaaccgggc actcagattc tg

42

<210> 36  
<211> 36  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(36)  
<223> primer

<400> 36  
gctgagctct agagtccttt tcttttataa agttgg

36

<210> 37  
<211> 31  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(31)  
<223> primer

<400> 37  
gtcgctgagg tcgacaaggc aaagagaaga g

31

<210> 38  
<211> 31  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(31)  
<223> primer

<400> 38  
gaccggtacc gtcgacaagg cacagcagtg g

31

<210> 39  
<211> 32  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(32)  
<223> primer

<400> 39  
ttctgtcgac gaatcccagg ggaatctca ac

32

<210> 40  
<211> 35  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(35)  
<223> primer

<400> 40  
gtcaccttcc agagggccct ggctaagcat aacag

35

<210> 41  
<211> 35  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(35)  
<223> primer

<400> 41  
ctgttatgct tagccagggc cctctggaag gtgac

35

<210> 42  
<211> 28  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(28)  
<223> primer

<400> 42  
aattgctgac ccccaaaata gccataag

28

<210> 43  
<211> 36  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(36)

<223> primer

<400> 43

ccatgcacgt ctgcagccag catggcagaa tcgaag

36

<210> 44

<211> 30

<212> DNA

<213> Artificial Sequence, primer

<220>

<221> misc\_feature

<222> (1)..(30)

<223> primer

<400> 44

cctgaggatc tattttccac cagtcatttc

30

<210> 45

<211> 29

<212> DNA

<213> Artificial Sequence, primer

<220>

<221> misc\_feature

<222> (1)..(29)

<223> primer

<400> 45

gtggaaaata gatcctcagg gccctctgg

29

<210> 46

<211> 34

<212> DNA

<213> Artificial Sequence, primer

<220>

<221> misc\_feature

<222> (1)..(34)

<223> primer

<400> 46

gcagtgccgg atcctcataa atgtttcctc cttc

34

<210> 47

<211> 24

<212> DNA

<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(24)  
<223> primer

<400> 47  
gacacccatgg gaagtattta tcac

24

<210> 48  
<211> 35  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(35)  
<223> primer

<400> 48  
cctgggattc atatcaaacc ttataacaaa tattg

35

<210> 49  
<211> 22  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(22)  
<223> primer

<400> 49  
tcctgctaag cataacagaa ac

22

<210> 50  
<211> 29  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(29)  
<223> primer

<400> 50  
ggtttgatat gaatcccagg gggaatctc

29

<210> 51  
<211> 22

<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(22)  
<223> primer

<400> 51  
accccgtagc tcttcccgag cg

22

<210> 52  
<211> 39  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(39)  
<223> primer

<400> 52  
gttattaatt aatggaggaa taattgaaga aggatatac

39

<210> 53  
<211> 31  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(31)  
<223> primer

<400> 53  
tcttctgcag gtcctgatcc ttgcttagtg c

31

<210> 54  
<211> 41  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(41)  
<223> primer

<400> 54  
gaccatgtta cccctttacc attaactccc taatatcaaa c

41

<210> 55  
<211> 44  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(44)  
<223> primer

<400> 55  
gtaaaggggt aacatggtca gcatcgcatc ctacggggga atcc

44

<210> 56  
<211> 38  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(38)  
<223> primer

<400> 56  
ccatgcacgt ctcgagccag catgggagac cctttgac

38

<210> 57  
<211> 37  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(37)  
<223> primer

<400> 57  
cgagctagag gtcgactcaa tttggtttat tagtaac

37

<210> 58  
<211> 32  
<212> DNA  
<213> Artificial Sequence, primer

<220>  
<221> misc\_feature  
<222> (1)..(32)  
<223> primer

<400> 58  
gcaatggaat gacatccctc agtgccagt cc 32

<210> 59  
<211> 42  
<212> DNA  
<213> Artificial Sequence, primer  
  
<220>  
<221> misc\_feature  
<222> (1)..(42)  
<223> primer

<400> 59  
gggatgtcat tccattgcca ccatgggaag tatttatcac ta 42

<210> 60  
<211> 34  
<212> DNA  
<213> Artificial Sequence, primer  
  
<220>  
<221> misc\_feature  
<222> (1)..(34)  
<223> primer

<400> 60  
gtcgagcacg cgtttgccta gcaacatgag ctag 34

<210> 61  
<211> 34  
<212> DNA  
<213> Artificial Sequence, primer  
  
<220>  
<221> misc\_feature  
<222> (1)..(34)  
<223> primer

<400> 61  
gtcgagccaa ttgttgcta gcaacatgag ctag 34

<210> 62  
<211> 28  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<221> misc\_feature  
<222> (1)..(28)



<223> P7.5E sequence

<400> 62

aaaagtagaa aatatattct aatttatt

28

<210> 63

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<221> promoter

<222> (1)..(19)

<223> T7 promter

<400> 63

taatacgact cactatagg

19

<210> 64

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<221> terminator

<222> (1)..(48)

<223> T7 terminator

<400> 64

ctagcataac cccttggggc ctctaaacgg gtcttgaggg gttttttg

48